UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
OSB1999-0097

September 2, 1999

Karen Kochenbach
Corps of Engineers
Portland District
P.O. Box 2946
Portland, Oregon 97208-2946

Re: Biological Opinion for the Girt Bank Protection Project on the Clatskanie River near Clatskanie, OR (Corps Permit No. 99-439)

Dear Ms. Kochenbach:

Enclosed is the Biological Opinion (Opinion) for a proposed project by Mr. James Girt to add 100 feet of riprap to an existing 1100 foot stabilized bank near Clatskanie, Oregon. This project will incorporate live willow cuttings into the rock and the upper bank will be planted with native vegetation. This project is described by the Corps of Engineers (Corps) in the letter of May 4, 1999, requesting consultation.

This Opinion constitutes formal consultation for the Southwestern Washington/Columbia River cutthroat trout (*Oncorhynchus clarki clarki*), Lower Columbia River steelhead trout (*Oncorhynchus mykiss*), Lower Columbia River chinook salmon (*Oncorhynchus tshawytscha*), and Columbia River chum salmon (*Oncorhynchus keta*) which occur in the proposed project area. Southwestern Washington/Columbia River cutthroat trout were proposed for listing as threatened under the ESA by NMFS on April 5, 1999 (64 FR 16397). Critical habitat has not been proposed for the Southwestern Washington/Columbia River cutthroat trout. Lower Columbia River steelhead were listed as threatened under the ESA by NMFS on March 19, 1998 (63 FR 13347). Critical habitat has been proposed for the Lower Columbia River steelhead on February 5, 1999 (64 FR 5740), and includes all river reaches accessible to listed steelhead in the Columbia River between the Willamette River and Hood River, and the river reaches of the Willamette River and Columbia River downstream of the Willamette Falls. Critical habitat consists of the water, substrate, and adjacent riparian zone. Lower Columbia River chinook salmon were listed as threatened under the ESA by NMFS on March 24, 1999 (64 FR 14308). Critical habitat has been proposed for the Lower Columbia River chinook salmon (March 9, 1998, 63 FR 11482), and includes the current fresh water range within the Columbia River and tributaries including Youngs Bay, and the Clatskanie, Clackamas, Sandy and

Hood Rivers in Oregon. This habitat includes the water, substrate, and adjacent riparian zone. Columbia River chum salmon were listed as threatened under the ESA by NMFS on March 25, 1999 (64 FR 14508). Critical habitat has been proposed for the Columbia River chum salmon on March 10, 1998 (63 FR 11774), and includes the accessible reaches of the Columbia River downstream from Bonneville Dam, excluding Oregon tributaries upstream of Milton Creek near St. Helens, Oregon.

NMFS has determined that the proposed action is not likely to jeopardize the continued existence of the listed Pacific salmon species addressed in this Opinion.

If you have any questions regarding this letter, please contact Jim Turner of the Oregon State Branch Office at (503) 231-6894.

Sincerely,

for William Stelle, Jr.
Regional Administrator

cc: John Marshall USFWS
Greg Robart ODFW
Larry Potter DSL
Tom Melville DEQ

Endangered Species Act - Section 7
Consultation

Biological Opinion

Girt Bank Stabilization Project

Agency: Army Corps of Engineers, Portland District

Consultation Conducted By: National Marine Fisheries Service,
Northwest Region

Date Issued: September 2, 1999

Refer to: OSB1999-0097

TABLE OF CONTENTS

I. BACKGROUND

On May 4, 1999, the National Marine Fisheries Service (NMFS) received a request from Portland District Army Corps of Engineers (Corps) for Endangered Species Act (ESA) section 7 informal consultation for issuance of a Corps permit (James Girt, # 99-439) for a bank stabilization project on the Clatskanie River near Clatskanie, Columbia County, Oregon. In that letter, and as a result of subsequent conversations, the Corps determined that the Southwestern Washington/Columbia River cutthroat trout (*Oncorhynchus clarki clarki*), Lower Columbia River steelhead (*Oncorhynchus mykiss*), Lower Columbia River chinook salmon (*Oncorhynchus tshawytscha*), and Columbia River chum salmon (*Oncorhynchus keta*) may occur within the project area. The Corps also determined that these species may be affected by the proposed project, but not be adversely affected. The NMFS does not concur with that determination and has prepared this Biological Opinion (Opinion) to address impacts to these species as a result of the proposed project.

The objective of this Opinion is to determine whether the action to stabilize the bank, through the use of riprap along the Clatskanie River, is likely to jeopardize the continued existence of the indicated fish species or destroy or adversely modify critical habitat.

II. PROPOSED ACTION

The proposed action involves placement of 75 cubic yards of riprap along 100 feet of bankline of the Clatskanie River. The bank has been previously stabilized using rock barbs and planting the upper bank with willows. Subsequent erosion occurred on one portion of the bank that remained exposed to strong currents. The project has been proposed to complete bank stabilization and protect farm structures threatened by continued erosion.

As a conservation measure, the applicant proposes to conduct work during the Oregon Department of Fish and Wildlife's (ODFW) in-water work period and place the rock from the top of the bank. Placement will take approximately one week to complete. In addition, the applicant has also indicated that willows will be planted in the riprap interstices to improve habitat for salmonids.

III. BIOLOGICAL INFORMATION AND CRITICAL HABITAT

Based on migratory timing, the NMFS expects that only a few of the indicated fish species, adult or rearing juveniles, would be present during the proposed in-water work period. The monitoring of these fish species will occur in the area after construction is completed. The proposed action would occur within proposed critical habitat (Table 1).

The action area is defined by NMFS regulations (50 CFR 402) as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." The action area includes designated critical habitat affected by the proposed action within the Clatskanie River

(mile 9.46). This area serves as a migratory corridor for both adult and juvenile life stages of all listed species under consideration in this Opinion. Essential features of the adult and juvenile migratory corridor for the indicated species are: (1) Substrate; (2) water quality; (3) water quantity; (4) water temperature; (5) water velocity; (6) cover/shelter; (7) food (juvenile only); (8) riparian vegetation; (9) space; and (10) safe passage conditions (50 CFR 226). The essential features this proposed project may affect are water quality, as a result of construction activities, water velocity and safe passage conditions, as a result of the riprap placed in the river.

Table 1. References to Federal Register Notices containing additional information concerning listing status, biological information, and critical habitat designations for listed and proposed species considered in this Opinion.

Species (Biological References)	***Listing Status Reference***	***Critical Habitat Reference***
Southwestern Washington/Columbia River cutthroat trout (Johnson et. al. 1999, Trotter 1989)	Southwestern Washington/Columbia River cutthroat trout were proposed for listing as threatened under the ESA by NMFS (April 5, 1999, 64 FR 16397).	Critical habitat has not been proposed for the Southwestern Washington Columbia River cutthroat trout.
Lower Columbia River Steelhead (Busby et. al. 1995, Busby et. al. 1996)	Lower Columbia River Steelhead were listed as threatened under the ESA by NMFS (March 19, 1998, 63 FR 13347).	Critical habitat has been proposed for the Lower Columbia River Steelhead (February 5, 1999, 64 FR 5740) and includes all river reaches accessible to listed steelhead in the Columbia River between the Willamette River and Hood River and the river reaches of the Willamette River and Columbia River downstream of the Willamette Falls. Critical habitat consists of the water, substrate, and adjacent riparian zone.
Lower Columbia River chinook salmon (Healey 1991, Myers et. al. 1998)	Lower Columbia River chinook salmon were listed as threatened under the ESA by NMFS (March 24, 1999, 64 FR 14308).	Critical habitat has been proposed for the Lower Columbia River chinook salmon (March 9, 1998, 63 FR 11482) and includes the current fresh water range within the Columbia River and tributaries including Youngs Bay, and the Clatskanie, Clackamas, Sandy and Hood Rivers in Oregon. This habitat includes the water, substrate, and adjacent riparian zone.
Columbia River chum salmon (Johnson et.al. 1997, Salo 1991)	Columbia River chum salmon were listed as threatened under the ESA by NMFS (March 25, 1999, 64 FR 14508).	Critical habitat has been proposed for the Columbia River chum salmon (March 10, 1998, 63 FR 11774) and includes the accessible reaches of the Columbia River downstream from Bonneville Dam, excluding Oregon tributaries upstream of Milton Creek near St. Helens, Oregon.

IV. EVALUATING PROPOSED ACTIONS

The standards for determining jeopardy are set forth in Section 7(a)(2) of the ESA as defined by 50 CFR 402 (the consultation regulations). NMFS must determine whether the action is likely to jeopardize the listed species and/or whether the action is likely to destroy or adversely modify critical habitat. This analysis involves the initial steps of: (1) defining the biological requirements of the listed species; and (2) evaluating the relevance of the environmental baseline to the species' current status.

Subsequently, NMFS evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NMFS must consider the estimated level of mortality attributable to: (1) collective effects of the proposed or continuing action; (2) the environmental baseline; and (3) any cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed salmon's life stages that occur beyond the action area. If NMFS finds that the action is likely to jeopardize, NMFS must identify reasonable and prudent alternatives for the action.

Furthermore, NMFS evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' critical habitat. The NMFS must determine whether habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. The NMFS identifies those effects of the action that impair the function of any essential feature of critical habitat. The NMFS then considers whether such impairment appreciably diminishes the habitat's value for the species' survival and recovery. If NMFS concludes that the action will adversely modify critical habitat, it must identify any reasonable and prudent measures available.

For the proposed action, NMFS' jeopardy analysis considers direct or indirect mortality of fish attributable to the action. NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential elements necessary for migration, spawning, and rearing of the listed and proposed species under the existing environmental baseline.

A. Biological Requirements

The first step in the methods NMFS uses for applying ESA section 7(a)(2) to listed salmon is to define the species' biological requirements that are most relevant to each consultation. NMFS also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess to the current status of the listed species, NMFS starts with the determinations made in its decision to list the species for ESA protection and also considers new data available that is relevant to the determination (Table 1).

The relevant biological requirements are those necessary for the indicated fish species to survive and recover to a naturally reproducing population level at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock,

enhance its capacity to adapt to various environmental conditions, and allow it to become self-sustaining in the natural environment.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful rearing and migration. The current status of the indicated fish species, based upon their risk of extinction, has not significantly improved since the species were listed.

B. Environmental Baseline

The biological requirements of the indicated fish species are currently not being met under the environmental baseline. Their status is such that there must be a significant improvement in the environmental conditions they experience over those currently available under the environmental baseline. Any further degradation of these conditions would have a significant impact due to the amount of risk they presently face under the environmental baseline.

The defined action area is the area that is directly and indirectly affected by the proposed action. The direct effects occur at the project site and may extend upstream or downstream, based on the potential for impairing fish passage, hydraulics, sediment and pollutant discharge, and the extent of riparian habitat modifications. Indirect effects may occur throughout the watershed where actions described in this Opinion lead to additional activities or affect ecological functions contributing to stream degradation. For the purposes of this Opinion, the action area is defined as the applicant's property. Other areas of the Clatskanie River watershed are not expected to be directly or indirectly impacted.

V. ANALYSIS OF EFFECTS

A. Effects of Proposed Actions

The NMFS expects that the effects of the proposed project will tend to maintain the habitat elements at this site over the longterm (greater than one year). In the short term, temporary increases of sediment and turbidity, and disturbance of riparian habitat are expected.

In the long term, the increased stability of the site will reduce sedimentation. There will be a loss of riparian habitat with placement of large riprap, but the placement of willow shoots and other native vegetation within the interstices will improve existing habitat conditions in the action area. The potential net effect from of the proposed action, including mitigation, is expected to maintain properly functioning stream conditions within the action area.

Summary of Specific Effects:

1. In-water work within the Clatskanie River could result in the disturbance of the indicated fish species. Juvenile fish that may be rearing in the vicinity of the action area would most likely be displaced, although warm summer temperatures generally preclude fish presence during the in-water work period. There is a low probability of direct mortality. In-water work would last approximately one week. In-water activities that could impact fish include placement of large riprap.
2. Approximately 100 linear feet of rearing habitat (stream bank and associated vegetation) will be altered as a result of the placement of riprap. To minimize the impact from this alteration, native riparian species will be planted in the project area. In addition, native willows will be planted within the riprap.
3. Short-term increases in turbidity and sedimentation resulting from construction will be offset by reduced erosion of soil in the scour area. The amount and duration of any increase in turbidity will be limited because of the short time frame to complete the project and the small amount of material to be placed below the ordinary high water line. Any increase in turbidity because of construction would be offset by the reduced erosion and input of sediment from the project area under existing conditions.

B. Effects on Critical Habitat

NMFS designates critical habitat based on physical and biological features that are essential to the listed species. Essential features for designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. Critical habitat has been proposed for the indicated fish species. For the proposed action, NMFS expects that the effects will tend to maintain properly functioning conditions in the watershed under current baseline conditions over the long term. The existing channel edge provides poor habitat for juveniles in the summer because of the lack of cover, extensive riprap and high summer temperatures. In addition, all trees within the project area will be saved by the proposed placement of riprap. Finally, the commitment to provide increased native vegetation within the riprap interstices will provide a net benefit to the listed species.

C. Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." For the purposes of this analysis, the general action area is the applicant's property. Other activities within the watershed have the potential to impact fish and habitat within the action area. Future Federal actions, including the ongoing operation of hydropower systems, hatcheries, fisheries, and land management activities are being (or have been) reviewed through separate section 7 consultation processes.

NMFS is not aware of any significant change in non-Federal activities that are reasonably certain to occur. NMFS assumes that future private and State actions will continue at similar intensities as in recent years.

VI. CONCLUSION

NMFS has determined, based on the available information, that the proposed action is expected to maintain properly functioning stream conditions within the action area. Consequently, the proposed action covered in this Opinion is not likely to jeopardize the continued existence of the indicated fish species or adversely modify proposed critical habitat. NMFS used the best available scientific and commercial data to apply its jeopardy analysis, when analyzing the effects of the proposed action on the biological requirements of the species relative to the environmental baseline, together with cumulative effects. NMFS believes that the proposed action would cause a minor, short-term degradation of anadromous salmonid habitat due to sediment impacts and in-water construction. These effects will be balanced in the long-term through the habitat enhancement activities. Although direct mortality from this project could occur during the in-water work, it is not expected, and the level of mortality would be minimal and would not result in jeopardy.

VII. REINITIATION OF CONSULTATION

Consultation must be reinitiated if: The amount or extent of taking specified in the Incidental Take Statement is exceeded, or is expected to be exceeded; new information reveals effects of the action may affect listed species in a way not previously considered; the action is modified in a way that causes an effect on listed species that was not previously considered; or, a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16). To re-initiate consultation, the Corps must contact the Habitat Conservation Division (Oregon Branch Office) of NMFS.

VIII. REFERENCES

Busby, P., S. Grabowski, R. Iwamoto, C. Mahnken, G. Matthews, M. Schiewe, T. Wainwright, R. Waples, J. Williams, C. Wingert, and R. Reisenbichler. 1995. Review of the status of steelhead (*Oncorhynchus mykiss*) from Washington, Idaho, Oregon, and California under the U.S. Endangered Species Act. 102 p. plus 3 appendices.

Busby, P.J., T.C. Wainwright, G.J. Bryant, L.J. Lierheimer, R.S. Waples, F.W. Waknitz, and I.V. Lgomarsino. 1996. Status review of west coast steelhead from Washington, Idaho, Oregon, and California. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-NWFSC-27, 261p.

Healey, M.C. 1991. Life history of chinook salmon (*Oncorhynchus tshawytscha*). Pages 311-393 In: Groot, C. and L. Margolis (eds.). 1991. Pacific salmon life histories. Vancouver, British Columbia: University of British Columbia Press.

Johnson, O.W., M.H. Ruchelshous, W.S. Grant, F.W. Waknitz, A.M. Garrett, G.J. Bryant, K. Neely, and J.J. Hard. 1999. Status review of coastal cutthroat trout from Washington, Oregon, and California. U.S. Dept. Commer., NOAA Tech Memo. NMFS-NWFSC-37, 292 p. - Trotter. 1989. Coastal cutthroat trout: A life history compendium. Trans. Am. Fish. Soc. 118:463-473.

Johnson, O.W., W.S. Grant, R.G. Cope, K. Neely, F.W. Waknitz, and R.S. Waples. 1997. Status review of chum salmon from Washington, Oregon, and California. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-32, 280 p.

Myers, J.M., R.G. Kope, G.J. Bryant, D. Teel, L.J. Lierheimer, T.C. Wainwright, W.S. Grant, F.W. Waknitz, K. Neely, S.T. Lindley, and R.S. Waples. 1998. Status review of chinook salmon from Washington, Idaho, Oregon, and California. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-35, 443 p.

Salo, E.O. 1991. Life history of chum salmon (*Oncorhynchus keta*). Pages 231-309 In: Groot, C. and L. Margolis (eds.). 1991. Pacific salmon life histories. Vancouver, British Columbia: University of British Columbia Press.

IX. INCIDENTAL TAKE STATEMENT

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

A. Amount or Extent of the Take

The NMFS anticipates that the action covered by this Opinion has more than a negligible likelihood of resulting in incidental take of the indicated fish species because of detrimental effects from increased sediment levels (non-lethal) and the potential for direct incidental take during in-water work (lethal and non-lethal). Effects of actions such as these are largely unquantifiable in the short term, and are not expected to be measurable as long-term effects on habitat or population levels. Therefore, even though NMFS expects some low level incidental take to occur due to the actions covered by this Opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species themselves. In instances such as these, the NMFS designates the expected level of take as "unquantifiable." Based on the information in the BA, NMFS anticipates that an unquantifiable amount of incidental take could occur as a result of the actions covered by this Opinion. The extent of the take is limited to the project area.

B. Reasonable and Prudent Measures

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to avoid or minimize take of the above species.

1. To minimize the amount and extent of incidental take from construction activities, measures shall be taken to: Limit the duration of in-water work and to time such work to occur when listed fish are absent; and implement effective pollution control measures to minimize the movement of soils and sediment both into and within the stream channel.
2. To minimize the amount and extent of take from loss of habitat and to minimize impacts to critical habitat, measures shall be taken to minimize impacts to riparian habitat, or where impacts are unavoidable, to replace lost riparian habitat function.
3. To ensure effectiveness of implementation of the reasonable and prudent measures, all plantings shall be monitored and meet criteria as described below in the terms and conditions.

C. Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the Corps must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1a. All work below the ordinary high water line will be completed within ODFW's in-water work period. Any extensions of the in-water work period will first be approved by and coordinated with ODFW and NMFS.

1b. Only clean, non-erodible, upland angular rock of sufficient size for long-term bank armoring will be employed.

1c. All equipment that is used for instream work will be cleaned prior to entering the job site. External oil and grease will be removed, along with dirt and mud. Untreated wash and rinse water will not be discharged into streams and rivers without adequate treatment. Areas for fuel storage and servicing of construction equipment and vehicles will be located at least 150 feet away from any water body.

2a. Willow cuttings shall be placed on 2' centers, within the interstices of the riprap.

2b. The top of the bank shall be planted with native vegetation.

3a. The applicant shall monitor the success of plantings within, and adjacent to, the riprap. The applicant will supply a monitoring report to the Corps that shall include photos of the plantings in the project area. The monitoring should be done one year following construction, and again at year 3 and year 5.

3b. Failed plantings will be replaced yearly, for a period of 5 years.